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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|--|-------------|----------------------|---------------------|------------------|
| 09/905,775 | 07/13/2001 | Michael P. Spratt | B-4242 618937-3 | 3501 |
| 22879 | 7590 | 11/16/2005 | EXAMINER | |
| HEWLETT PACKARD COMPANY P O BOX 272400, 3404 E. HARMONY ROAD INTELLECTUAL PROPERTY ADMINISTRATION FORT COLLINS, CO 80527-2400 | | | NGUYEN, QUYNH H | |
| | | | ART UNIT | PAPER NUMBER |
| | | | 2642 | |

DATE MAILED: 11/16/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/905,775

Applicant(s)

SPRATT, MICHAEL P.

Examiner

Quynh H. Nguyen

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on remarks filed 9/2/05.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-21 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) 1-5, 7, 9-18, 20 and 21 is/are allowed.
- 6) ☒ Claim(s) _____ is/are rejected.
- 7) ☒ Claim(s) 6, 8 and 19 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☐ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: _____.

DETAILED ACTION

1. The text of those sections of Title 35 U.S. Code not included in this action can be found in a prior Office action.

2. Applicant's amendment filed 9/2/05 has been entered. No claims have been amended. No claims have been cancelled. No claims have been added. Claims 1-21 are still pending in this application, with claims 1, 17-18, and 20-21 being independent.

Claim Rejections - 35 USC § 103

3. Claims 1-5, 7, and 9-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Toh (U.S. Patent 5,987,011) in view of Robert et al. (U.S. Patent 6,104,712).

Regarding claims 1 and 2, Toh teaches a method for passing a message (col. 12, lines 1-3) to a target receiver at a known location (Fig. 8a, destination node 24), wherein the message is carried towards the target receiver by one or more mobile entities (intermediate nodes 22) by short-range communication (ad-hoc mobile communications) (col. 4, lines 52-67), the message including an indication of the location of the target receiver, and at least one of the mobile entities is used to carry the message only following an immediately-prior determination that the node is appropriate to physically carry the message to the target receiver (col. 12, lines 46-48 and lines 59-64; col. 13, lines 37-39; col. 14, lines 56-67).

Toh does not specifically suggest the mobile entities are used to carry the message following a determination that its direction of travel to progress the message on its way to the target receiver.

Robert et al. teach predicting direction of travel for sending / routing protocol mobile with package (col. 20, lines 21-67).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the feature of determining that the direction of travel to progress the message on its way to the target receiver, as taught by Robert, in Toh's system thus making the routing method for ad-hoc mobile networks more efficient by maximizing utilization the benefit of short range communication.

Regarding claim 3, Robert et al. teach the network is operated within confined boundaries, or other geographically bounded region. The node includes a geolocation detector that locates the instantaneous position of the node (col. 2, lines 51-53) reads on claim 3.

Claims 4, 5, and 7 are rejected for the same reasons as discussed above with respect to claim 1. Furthermore, Toh teaches intermediate nodes 22.

Claim 9 is rejected for the same reasons as discussed above with respect to claims 1 and 4. Furthermore, Toh teaches the route parameters that govern the ABR route selection (col. 10, lines 8-22 and table 1). However, Toh does not teach deriving a reference direction and comparing its direction of travel with the reference direction and determining that it is appropriate to carry to the message only upon the compared directions being within a predetermined angular range of each other. It would have

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been obvious on one of ordinary skill in the art at the time the invention was made to incorporate the mentioned above features to Toh's system in order to have a better system.

Regarding claims 10-16, Toh teaches the process of decreasing the transmission distance, calculating the necessary power and transmitting the packet is repeated until the adjusted distance is no longer positive (col. 15, lines 17-59); and the sky wave signal propagation relies on the incidence angle and the angle of refraction (col. 7, line 63 through col. 8, line 15). However, Toh does not teach at least one mobile entity when carrying the message seeks to pass on the message to another mobile entity or multiple entities upon its direction of travel no longer being appropriate to progress the message on its way to the target receiver; informing by the message-receiving mobile entity as to whether the latter has accepted to carry the message. It would have been obvious to one of ordinary skill in the art to incorporate the mentioned above features in Toh's system to have a short range device that cover the radio transmitters which provide either uni-directional or bi-directional communication that have low capability of causing interference to other radio equipment.

Claim 17 is rejected for the same reasons as discussed above with respect to claim 1.

4. Claims 18 and 20-21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Toh (U.S. Patent 5,987,011) in view of Robert et al. (U.S. Patent 6,104,712) and further in view of Stiller et al. (U.S. Patent 6,704,283).

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Claims 18, 20, and 21 are rejected for the same reasons as discussed in claims 1 and 11. Furthermore, Toh teaches a memory for holding the message (RN control packet).

Toh does not teach a short-range transceiver capable of determining the presence nearby of the mobile entity.

Stiller et al. teach a short-range transceiver capable of determining the presence nearby of the mobile entity (col. 6, line 29).

It would have been obvious to one of ordinary skill in the art to incorporate the feature of a short-range transceiver capable of determining the presence nearby of the mobile entity, as taught by Stiller, in Toh's and Robert's systems thus making the system more efficient in determining the best route.

Allowable Subject Matter

5. Claims 6, 8, and 19 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Response to Arguments

6. Applicant's arguments, filed 1/11/05 with respect to claims 1-21 have been fully considered and are persuasive. Applicant arguments are addressed in the above claims rejections.

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Applicant mainly argues that the prior arts do not teach that an intermediate node can be used to carry a message, from the source to the target, following an immediately-prior determination that the node is appropriate to carry the message to the target receiver. Examiner respectfully disagrees. The primary reference (Toh) teaches (col. 12, lines 46-48 and lines 59-64; col. 13, lines 37-39; col. 14, lines 56-67) that an intermediate node can be used to carry the message only following an immediately-prior determination that the node is appropriate to physically carry the message to the target receiver. The secondary reference Robert et al. teach predicting direction of travel for sending / routing protocol mobile with package (col. 20, lines 21-67). The combination of the two references teaches the claims limitations.

Conclusion

7. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

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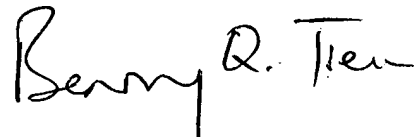
8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Quynh H. Nguyen whose telephone number is 571-272-7489. The examiner can normally be reached on Monday - Thursday from 6:15 A.M. to 4:45 P.M.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ahmad Matar, can be reached on 571-272-7488. The fax phone number for the organization where this application or proceeding is assigned is 571-273-83--.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Quynh H. Nguyen

November 9, 2005


BENNY TIEU
PRIMARY EXAMINER
A.U. 2642